The Files 5 September 1957

[redacted] 25X1A9A

25X1 [redacted] RR-AA/11 Receivers

1. On 21 August 1957, I visited the plant of the [redacted] 25X1A5A1 to discuss certain short-comings of the tuner mechanism. Those attending the meeting were:

[redacted] 25X1A5A1

2. The discussion of deficiencies of the receivers were based in large measure on the following reports: The "Summary of Test Data, Conclusion and Recommendations on the RR-11/AA Receiver", dated 14 September 1956. "Checks on the RR-11AA Receiver No. 9 in conjunction With RF Tuner No. 15," dated 15 October 1956, "RR/AA-11 Receiver Calibration Check" dated 22 March 1957, "Summary of Measurement on Tuners No. 1-R and R-2 for RR/AA-11 Receiver" dated 9 August 1957. Also at this time, receiver Nos. 4, 5, 9 and 12 complete with tuners, and extra tuners No. R2 and 8 were given to [redacted] 25X1A5A1 to check for malfunction.

3. The principal points of consideration concerning the tuner were causes of calibration error, calibration drift with time, and resetability error. As had been stated in the past, and at the offset of this meeting, was again emphasized by both [redacted] 25X1A5A1 the development specifications No. 54-A-1028-A for RR/11-AA Transistorized communications receiver and development specification No. 55-A-1036-A for RR-11/RB transistorized communications receiver are design objectives rather than minimum standards of attainment. In one such instance, [redacted] 25X1A5A1 felt that the specification imposed a most difficult situation, this in Section 2.1.2.1. receiver frequency calibration which states that the calibration accuracy of the tuning dial shall be within .1% throughout the tuning range. He felt that this accuracy could be relaxed somewhat without impairment of receiver operation, particularly when weighed against the next specification 2.1.2.2. dial resetability which states the accuracy of resetability shall be within .01% when approached from either the high or the low end of the tuning range. [redacted] 25X1A5A1 contends that the percentage calibration error becomes somewhat meaningless when one considers that .01% at 3 mc is 300 cycles and resetability at 12 mc is 1200 cycles.

[redacted] feels quite strongly that a fixed resetability error of perhaps 2.5 kc should be allowed. This error to apply at all portions of the tuning range. It is further noted that the 2.5 kc proposed error is well within the bandpass specification of the intermediate frequency amplifier of 6 kc. In this light, [redacted] feels that calibration accuracy as such is not as important particularly when the operator may be able to return to his original setting within the accuracy above stipulated. It is noted here that calibration accuracy does not meet specifications in most cases, nor is the specification on dial resetability met. However, it is of interest to note that dial resetability is close to the proposed 2.5 kc fixed error in most cases. In general, other performance characteristics of the receiver, such as spurious response, high frequency oscillator reradiation, and image frequency rejection ratio were not discussed at length as these various items are considered to be relatively minor design problems, when compared to the complexity of obtaining the desired dial calibration accuracy.

4. The points of consideration to improve performance of the tuner were discussed at some length, together with the design changes necessary which would permit the device to be manufactured in production quantity. The [redacted] representatives had earlier made the flat statement that the tuner in its present configuration is not reproducible in production lots. These various points of discussion are not being made as a matter of record here as complete minutes of the meeting were kept and will be forwarded to us by [redacted] in the very near future, and inserted into the record.

5. In consideration of all factors involved, such as certain basic mechanical design changes, relaxation of certain specifications particularly in consideration of size, the [redacted] people ultimately agreed that with proper tooling the device could conceivably be built at some reasonable cost. At this time, they would not venture an opinion as to magnitude of "reasonable cost" but agreed to submit a "ball park figure" to [redacted] in order that we may in turn be advised of the budgetary estimate of producting the receiver in lots of 100, 300 and 500.

[redacted]

OC-E/R&D-EP, [redacted]:mjr (5 Sept.)
cc: R&D Subject File
Monthly Report
R&D Lab
O&T/SB
R&D Chrono
EP chrono